

[54] **CONDITIONAL MOTION COMPENSATED  
INTERPOLATION OF DIGITAL MOTION  
VIDEO**

[75] Inventors: **Barin G. Haskell**, Tinton Falls, N.J.;  
**Atul Puri**, Bronx, N.Y.

[73] Assignee: **AT&T Bell Laboratories, Murray Hill, N.J.**

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[58] **Field of Search** ..... 358/135, 136, 133

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*Primary Examiner*—James J. Groody

Assistant Examiner—Victor R. Kostak

*Attorney, Agent, or Firm*—Henry T. Brendzel

[57] **ABSTRACT**

Motion digital video is encoded and decoded by a motion compensated interpolation method and apparatus. In accordance with the method, selected frames of the video are interpolated in the decoder with the aid of interpolation correction codes that are generated in the encoder and sent to the decoder. In an encoder embodiment that interpolates half of the frames, every other frame is encoded and decoded within the encoder. The decoded versions of adjacent frames are appropriately combined and compared to the interleaved camera frame that is to be interpolated in the decoder. The differences, which correspond to "pels correction" information, are encoded and quantized. Those that exceed a predetermined threshold value are added to the encoder's output buffer. The inverse operation is carried out in the decoder. That is every pair of decoded frames is averaged and combined with the decoded "pels correction" information to form the interpolated frames.

**12 Claims, 2 Drawing Sheets**

